

IN THE CLAIMS:

Claim 1 (canceled).

Claim 2 (currently amended): A lithographic method to form groove-form patterns on a sample surface comprising the steps of:

preparing a nanotube probe that is formed by fastening a base end portion of a nanotube to a holder with a tip end portion of said nanotube being caused to protrude from said holder,

causing a tip end of said tip end portion of said nanotube probe to contact a surface of a sample either continuously or intermittently,

applying a voltage across said nanotube probe and said sample, and

causing said nanotube probe to move while removing a substance that makes said sample at a tip end contact area by an application of said voltage, and

wherein a groove width of and a groove depth of said groove of said groove-form pattern are controlled by adjusting a scanning speed of said nanotube probe and said applied voltage.

Claim 3 (previously presented): The lithographic method according to Claim 8 or 2, wherein said holder is a pyramid portion of a cantilever for AFM use.

Claim 4 (currently amended): The lithographic method according to Claim 8 or 2, wherein said sample is a ~~lithographable~~ lithographable matter including an organic film, other organic matter and an inorganic matter, and a voltage is applied across said probe needle and said organic film so that said probe needle is used as a cathode.

Claim 5 (canceled).

Claim 6 (original): The lithographic method according to Claim 4, wherein said organic film is one selected from the group consisting of an electrical or optical functional film, a mask-forming film and a resist film formed on a substrate.

Claim 7 (original): The lithographic method according to Claim 4, wherein said organic film is a polysilane film.

Claim 8 (currently amended): A lithographic method to form groove-form patterns on a sample surface comprising the steps of:

causing a tip end of a probe needle to contact a surface of a sample either continuously or intermittently, said probe needle being an ultra-fine probe needle with a nano-size tip end diameter,

applying a voltage across said probe needle and sample, and

causing said probe needle to move while removing a substance that makes said sample at a probe needle contact area by an application of said voltage, and

wherein a groove width of and a groove depth of said groove of said groove-form pattern are controlled by adjusting a scanning speed of said probe needle and said applied voltage.